

Where James Watt Spent His Boyhood.

I was a mechanical toy stand at the annual fair. Little engines drawing long trains of cars were running in all directions. There was a circular railway and switch with tiny signal lights and flags. Make-believe toy trainmen in uniforms stood about ready to obey orders and assist imaginary passengers off and on the trains.

In the center of all this mechanism was a large picture on an easel. The subject of the painting was a scene in an old-time Scotch kitchen. The central figure was a man sitting at a table eating a bowl of porridge. A woman sat near drinking a cup of tea. The third figure at the table was a young lad playing with the lid of a tea-kettle. I became interested in the picture, and for the moment the baggage music coming from the band of Highland minstrels, the laughter and chatter of the children on the merry-go-round, the groups of peasants in kilt and tartan, and even the interesting toy world before me faded away. I stood in the old Watt kitchen. It was the mother who spoke:

"I never saw such a life boy as you are, James. Take a book or employ yourself more usefully; for the last hour you have not spoken one word or done a thing except taking off the lid of that tea-kettle and putting it on again, holding now a cup, now a spoon over the steam, watching how it rises from the spout, catching and counting the drops into which it falls."

How little did the good lady think as she spoke! The little life boy that her words would be handed down to posterity. How little did she think that her sickly child was destined from that moment to revolutionize the world. Yes, this little sickly boy, born in what would now be called a Greenock slum street, was to become the man who so improved the steam engine that he is sometimes known as its inventor.

Later in the day I visited the spot where little James was born. The old house has long since been removed. For a number of years the James Watt Tavern occupied its site, but it, too, has been demolished, and the grounds are now fenced in by old railway sleepers.

As I said before, little James Watt during his youth was a very sickly child. His health was so poor that he could not attend school. But he always showed a fondness for learning and taught himself at home, and his weakness seemed to make him persevere in his quiet occupation. He chiefly took interest in geometry.

One day a visitor called and finding the boy, as he thought, scrawling random lines over the hearthstone with a piece of clay, said it would be better for him to be at school than to be idling his time thus. This time his father interfered and spoke in his behalf:

"But look what he is about before you condemn him." The friend then found that the future engineer was busy trying to solve a hard geometrical problem.

But mathematics was not his only study. His inquiring mind was fond of watching and trying to understand natural wonders, such as, for instance, the power of steam. His toys, too, were more than playthings to him. He liked to see how they were made, and many were the repairs James got for experimenting with them, as he frequently broke them by taking them apart. Nevertheless he generally managed to put them together, and often in a way that was an improvement on the original.

A set of tools given him by his father occupied him many an hour, and numerous were the toys he made, one being an electrical machine. Nor was the boy selfish, for many were the gifts to his playmates of wonderful toys. Thus he learned to work with his hands, and this no less than his other knowledge helped him greatly in his wonderful inventions. Little James was also a very pleasant playfellow, and possessed that fine trait of character indispensable to all boys who would be really great men, namely, truthfulness.

So truthful was he that whenever his father wished to find out the cause of the boy's quarrels he would say: "Let James speak. He always tells me the truth."

So Watt's boyhood passed, and in his youth is seen the foundations of that wide scientific knowledge, perseverance and industry which brought him such great success in after life.

At last the time came for him to earn his own living. His natural love of mechanics decided his career, and when, but eighteen years of age he went to London in search of a situation. For weeks he walked the streets but with no success. No one seemed to think the raw Scotch boy would be of any use. At last his money was all gone, and the boy found himself without food or friends in the great lonely city.

He was about to retrace his steps and beg his way back to his old Scotch town when he passed a mathematical instrument maker's shop. Here was one more chance. Should he try? No, it would be useless. He would only have to suffer the mortification of another refusal.

As he stood hesitating a young man of his own age stepped to the door. Evidently from his dress, he was an apprentice boy. Watt addressed him, and was soon shown to the proprietor, who at once employed him.

There he stayed a year learning to make such instruments as compasses, parallel rulers, etc. At the end of the year his health gave way, and he was obliged to return to Scotland.

When he regained his health he resolved to start in business in Glasgow. It was some time before he succeeded in doing so, but at last he was helped by the authorities of the university, who appointed him mathematical instrument maker to the university, and gave him the use of rooms in the building.

Here he worked hard for six years. Although with all his work, he could scarcely make a living, still the time so spent was in some ways very happy. His room was the resort of many clever men such as Mr. Robinson, Dr. Black, Dr. Adam Smith, who all became noted.

Here, in addition to his work he pursued scientific studies of all kinds, especially investigating the nature of steam, thus greatly increasing his store of knowledge and gaining the respect of professors and students.

At the age of 26 he left the university and removed to a place of business in the town, was married and began to earn more money than before by working for a few years as a civil engineer, making plans for canals, and improv-

ing harbors. But this, however, was not to be the great work of his life.

One day in 1764 he was asked to repair a model of an engine used by one of the university professors when teaching natural philosophy. It was a copy of the engine made by Newcomen, and used to work pumps. It consisted of a cylinder and piston. You can see what these are like if you take a common spirit and cut off the pointed end. The barrel is the cylinder, the tight-fitting piece that moves up and down inside is the piston and the rod fastened to this is the piston rod.

Steam from a boiler was sent into one end of the cylinder and the piston rod moved up, then when the steam cooled to a drop of water the air pushed the piston down. The piston rod was joined to one end of a balancing beam like the cross beam of a pair of scales, and to the other end was fastened the pump rod, so as the piston moved up and down the pump rod moved up and down and worked the pump.

Watt very soon repaired this engine, but while doing so the thought struck him that he could in several ways improve it. He thought about this for two whole years, and found all his former study of the nature of steam very useful to him.

At last, after constant thought and repeated experiments, he succeeded, and made another engine, so much better than the old models as to make them worthless by the side of his new inventions.

First he made it so as to be worked with much less steam than before. Then he sent steam in both ends of the cylinder, and so the piston was pushed down as well as up by it instead of being moved partly by air.

Again, by fastening the piston rod to a wheel instead of a balancing beam he made it fit not only to work pumps but to set in motion any kind of machinery.

In after years he added other improvements, and so became the maker of an engine worked by steam at a far less cost than the old ones and of much greater power.

The value of Watt's inventions was soon seen. For thirty-five years his life was devoted to the building and sale of engines. His place of business was at Soho, Birmingham. At the beginning of the eighteenth century he retired a rich and honored man. For nineteen years longer he enjoyed his well-earned wealth and fame and died at his beautiful home in Heathfield, Sussex, not far from London.

His friends loved him for his virtues. Every one respected him for his scientific knowledge and inventive genius. He was loaded with honors, and in many towns to-day his statue is to be seen, while the shrill whistle of the engine is a speaking reminder of his greatness.—Playmate in Mail and Express.

A Weather Prophet.

(By Clara D. Bates.)

It rains! this morning on a tree
We heard a shrill chirring;
We stretched to find it carefully,
For well we knew the roze must be
A little tree-frog purring.

Blue as a larkspur was the sky;
The bees went blooming, humming;
White clouds like snow, fair ships sailed by;
No sign was there to any eye
Of sudden rain-storm coming.

But chirr, he piped, and chirr and chirr;
The children sighed "provoing!"
Quite out of sorts indeed they were
That that small hidden thing should stir
The sweet air with his croaking.

Their play was planned for out of doors,
When first they heard him calling;
And now a heavy darkness loomed—
Rain pattered first, and now it pours
As if the sky was falling.

I fancy he will find some chink
With twigs and leaves for cover,
Where he can safely sit and blink,
And thrust his nose out for drink,
Until the rain is over.

You'd like to see him some fine day?
Only quick eyes can find him:
He has a most mysterious way
Of being gray if bark is gray,
Green if there's green behind him.
—Sunday School Times.

THE YOUNGEST RAILWAY MANAGER.

He is a Minnesota Boy, and is President of an Electric Road.

Little Archie Cowley, of Dellwood, Minn., is probably the youngest railway manager in the world. Archie is but seven years old, yet he controls an entire electrical railroad. It is true that the road is but one-tenth of a mile in length, nevertheless it is fitted out just as completely as any road that is run by grown persons. Archie is president, secretary, conductor, brakeman, and motorman while his sisters and playmates are the passengers. The road was built for Archie by his father, who is a St. Paul banker.

There are three cars on the road—one motor car and two passenger cars. Each car is five feet long and two feet wide. It is not a trolley road. Instead of a trolley wire there is a long strip of iron, which lies between the track and supplies the electricity which makes the car move along. On the motor car is the rheostat, which is an arrangement for controlling the electric current. Using it, Archie can make his cars move as fast or as slow as he pleases. On his car also are the motor and the brake, and also the reversing switch, which makes the cars move backward.

At one end of the road is the power house where the electricity is produced. The electric current comes from a small dynamo, which is also driven by a petroleum engine. There is also a shed where the cars are stored at night and in winter time. In the power house everything is arranged just the same as if it was a large station run by a large company.

But Archie is the company in this. His road is on the hill by the side of White Bear lake, and he is the only boy in that region who is able to go coasting in summer time. He himself will tell you the best of all is, that this kind of coasting you do not have to walk back up the hill. The electricity pulls you up. Archie is

very proud of his road, and spends the days carrying his sisters and their dolls along the road. He can stop at any place on the way, so he pretends there are several stations, and his sisters get out. Then he takes them up again when he comes back, and collects make-believe money from them. They all have a very good time riding on the cars, and Archie is learning a great deal about electricity—Atlanta Constitution.

Frances Wish.

It was at a dinner, and there had been chicken, of which the little daughter of the house had partaken with great freedom. "I want some more chicken," said Frances. "I think you have had as much as is good for you, dear," replied Frances' mamma. "I want more." And Frances pouted. "You can't have more now; but here is a wishbone that you and mamma can pull. That will be fun. You pull one side, and I'll pull the other; and whoever gets the longer end can have her wish come true. Why, baby, you've got it! What was your wish, Frances?" "I wish for some more chicken," said Frances promptly. She got it this time.—Christian Work.

Dorothy.

(By E. W. Timlow.)

Dorothy's home was in Boston, but she was very often sent out into the country to stay with Grandmamma. She dearly loved to go to the dear old farmhouse, for she always had fine times there.

The summer she was six years old her mother and father took a long journey; so little Dorothy went to the country for a long, long visit, which was to last three months. Grandmamma was as glad to have her as Dorothy was to go; for the little girl was a great pet of hers, and, besides, she bore her own old-fashioned name. Her older brothers and sisters always called her Dot, however, which Mamma did not like and never used; so, when the little girl was asked her name, she usually answered, promptly: "Dorothy Dot Hillard."

A great amusement at Grandmamma's was going to the little country school with an older cousin. She went to a kindergarten at home, but this was very different and seemed to her very funny. The children read and spelled in loud shouts. She learned to read herself here (funny little sentences from a funny little primer, like "She-saw-the-cat. The-cat-was-seen-by-her.")

The teacher was a young man who never had taught before, and he thought he ought to be very strict with the little ones; he would often say:

"Now I am going to leave the room, and I want you all to keep perfectly still while I am gone. If any one moves or speaks I shall know it."

Then he would slip outside the door, close it and stand close to it, to see if he were obeyed. Then he would open it suddenly and go in.

At first there was much uproar during his absence; but when they discovered that the offenders were promptly punished, they learned to keep as still as mice while he was out.

The first time that Dorothy was present at this performance she was immensely interested. The master, after a warning word, left the room, and perfect silence reigned.

Presently Dorothy, purely in an investigating spirit, lifted up her voice and squealed a funny little high squeal. "Oh, hush, Dot!" whispered Celia, her cousin, in a panic. "Praps he'll whip you!"

Dorothy's eyes grew big as saucers. Whip her! She grew rigid with fright. Oh, why had she done so dreadful a thing!

"Hide your head here in my lap," advised Celia, hastily; and Dorothy thankfully ducked her golden curls under the desk, into Celia's sheltering blue gingham lap.

The next moment the master reappeared. He looked severely round at the quaking little flock.

"Who uttered that sound?" he asked, in a awful tones.

Nobody answered, but everybody cast corner-eyed glances at one particular spot.

"Who uttered that sound?" repeated the master, more loudly. Dorothy shivered to the ends of her little russet-leather toes, and clutched Celia's leg in a panic.

"Please, sir," said Celia, half raising her hand, "I think it was my little cousin."

"Oh!" said the master, grimly. "And where is your little cousin now?" "Please, sir—oh!" this was an involuntary jump at Dorothy's imploring pinch, which happened to strike a tender spot on her leg. "I—I think she's gone to sleep."

A sigh of relief ran through the school. Dorothy, with her legs twisted into a hard knot, lay still as death in Celia's lap.

"Well," said the master, relaxing suddenly; "of course if she made the sound in her sleep, we'll excuse it this time."

"I—I don't quite think she made the noise in her sleep," stammered honest Celia; "but I think praps she's gone to sleep now."

The master turned suddenly to his desk and began to rearrange his books.

After a moment he turned back again, and, to the children's astonishment, he said, quite pleasantly:

"When she wakes up we will tell her that little girls never scream out like that in school. Second class in arithmetic, take your places."

Dorothy lay squeezed up in a bunch on the hard board seat till school was dismissed, not daring to move a muscle. But she was an honest little soul, and she knew well enough she ought to tell the master about it.

She knew he was often in the school-house some time after the children were dismissed; so when the children had all trooped home, she and Celia among them, she announced, at the lane where Celia wet a different way, that she had to go back a moment. And back she scampered, as fast as her stout little feet could carry her. She was very much afraid lest her resolution should fail her, for she didn't in the least know what the teacher would do to her; but she felt she must tell him the truth.

"Please, Mr. Jacobs," she burst out, breathlessly, rushing in headlong, "I wasn't asleep when I squeaked this afternoon; but I was so 'fraid when Celia thought you'd—whip me"—Dorothy could hardly say the dreadful word—"n" so we played I was asleep; 'n' I kept just as still afterwards, 'n' the boards hurt my legs dreadfully, for I was all scrouged up; 'n' truly, truly, I'll never do it again; 'n' I'm so sorry, 'n'—Dorothy, earnestly.

"You've a brave little girl," said Mr. Jacobs, who had recovered from his astonishment by the end of her speech. And to her immense surprise and in-

finite relief this dreadful Mr. Jacobs, whom they all feared, stooped down and kissed her, and then let her help him shut up the schoolroom; and when they left the house Dorothy had tight hold of his hand, and skipped along, chattering gaily.

But she was a very good child in the schoolroom after that.—Independent.

An Indian Legend.

Have you small readers of The Times ever heard the odd legend by which the Indians explain the crimson tints that touch the leaves of the trees with brightness as autumn comes round?

They believe that the stars in the dipper were men hunting. They entered upon the chase early in the spring and it continued throughout the summer. Finally, with the coming of autumn, they succeeded in wounding the Great Bear, and it was his blood dripping from heaven upon the leaves, that gave them their red hue.

A simple and childlike belief, was it not, at which we, with our powerful telescopes, smile indulgently, for we have pierced the heavens and brought their secrets down. But our superior knowledge only makes us appreciate the simplicity of the forest children more thoroughly and there is something very pathetically beautiful to me in it, for it is the simplicity, children, of a race which has not outlived its childhood. If you do not understand that sentence ask father or mother to explain to you what it is I mean, and then I am sure you will think just as I do about it.—E. A.

Father Times' Mail Bag.

Dear Father Times—I send you a piece of our own composition. We hope you will like it, for we worked very hard over it.

We have just read that you won't accept anonymous things. Our names are Helen and Alice. We remain

TWO OF YOUR LITTLE READERS.
My little girls, I am sorry that your clever poem is not suitable for insertion in the paper, but am much gratified at the receipt of your note and hope you will not be discouraged, but, like plucky children, "Try again."

Dear Father Times: I have been reading your paper ever since it had a page for children. My mother says the "Home" supplement is nicer than the big paper and I think so too. I like the stories and some of the poetry is so cute. I think the Junior Society column is splendid. Your little reader,
JOHN T. T.

Glad to hear the children's page pleases you so well, little man, and hope it may continue to do so.
ED.

Dear Father Times: I think the Junior Society column is splendid. Please say I'm going to have a party on the 26th. Yours,
MARY E. T. WRIGHT.

Dear Father Times: I'm one of the "Little Gleaners" and thank you for speaking so nicely of us in the Junior Society column.

JUNIOR SOCIETY COLUMN.

Did ever any children, in the old Fatherland, across the big blue pond, or here in Richmond city, State of Virginia, United States of America have a jollier time than did the small folks at Sanger Hall Garden on last Thursday? I think it unlikely. They played games, sang, enjoyed the Punch and Judy show, and the fireworks, and altogether crowded about as much fun into one afternoon as it could hold.

Master Palmer Leigh, thanks to his manly pluck, is rapidly recovering from the effects of his late accident.

Miss Lillian Harzamin, an eight-year-old Cary street belle, is one of Father Times' most valued small readers.

The Junior "Hollywoods" will shortly resume their meetings for the season. The "Little Gleaners" are plotting all sorts of delightful ways to help the poor during the coming winter.

On last Wednesday evening, Miss Minnie Tompkins gave a charming party in honor of two little friends who are visiting her. Games and dancing were enjoyed, and later, refreshments, ice cream, cake, candy and fruit.

Those enjoying the courtesy of the graceful little hostess were: Misses Mary Travers, Estelle Manson, Kate Paul, Sallie Edmunds, Esther Tuley, Jennie Jackson, Masters John Tuley, Paul Jackson, Harry Winn, George Foley, James Travers, and Eddie Christian.

—PUZZLES NEXT SUNDAY.—

One Cause of Miseducation.

There are many men of culture and of eminence, mostly professors and students of mathematics and natural science who, while admitting the benefit to be derived from the study of Greek, advocate eliminating it from the curriculum of academic studies, and applying to modern languages the time now devoted to it; or, at least, making Greek an optional subject, except in the case of philological and theological students. This opposition can hardly be said to be directed against the Greek language itself; it is argued that the study entails eight or nine years of onerous and fruitless labor—a labor of Sisyphus—at the end of which time the results obtained are, in most cases, poor, not to say imperceptible. We are bound to admit that these arguments are mainly valid. But they fail to touch the real cause of mischief; they aim at ending what needs only mending.—Dr. J. Gennadius, in the October Forum.

Choose a Business Husband.

An incompetent business man is only a shade better than a morally deficient man, but only a shade. If a young man is afraid of work a girl has every ground to be afraid of him. He will never amount to anything, nor will she if she marries him. I will grant to such a young fellow all the virtues in the moral catalogue, but I will still choose to believe that the time is bound to come when the girl who becomes his wife will be ashamed of him when she compares him with other men who love their work, and because of their love of it carry it to a successful termination. I ask not that a girl in love with a young fellow shall weigh every point. But one thing I do ask of her: If she marries a worthless fellow who has no business ability with her eyes open, she must not complain afterward if she finds that all the other graces of manhood are as naught, in the long run, before that one great incompetency in a man.—From the October Ladies' Home Journal.